

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO. 585
ANSWERED ON 03/12/2025**

**INDIGENOUS INITIATIVES FOR ARTIFICIAL INTELLIGENCE (AI)-SPECIFIC
SUPERCOMPUTERS**

585. SHRI VISHNU DATT SHARMA:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether the Government is undertaking or supporting any indigenous initiatives to design and develop Artificial Intelligence (AI)-specific supercomputers in the country, comparable to global benchmarks set by companies like NVIDIA and others;**
- (b) if so, the details of the institutions or consortia involved in such initiatives and the status of infrastructure development, research collaborations and hardware or chip design efforts being carried out;**
- (c) the roadmap proposed to ensure indigenous design of High-Performance Computing (HPC) systems including AI processors, accelerators, or AI chips and integration with the National Supercomputing Mission (NSM);**
- (d) if not, the reasons for the absence of such focused indigenous initiatives; and**
- (e) whether the Government proposes to formulate a national program for India-specific AI hardware and supercomputing ecosystem development and if so, the details thereof?**

ANSWER

**MINISTER OF STATE (INDEPENDENT CHARGE) OF THE
MINISTRY OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. JITENDRA SINGH)**

(a) to (b): Under National Supercomputing Mission (NSM), so far, 37 supercomputers, with a combined capacity of about 39 Petaflops (PF) have been designed, built and commissioned. These supercomputers are located in academic institutions universities, and R&D labs across the country, the details are given in Annexure. 10 more supercomputers are presently being commissioned, including National Facility with India's largest HPC & AI set-up with a capacity of 20 PF.

Various indigenous supercomputing sub-components, including Servers, High speed interconnect, System Software Stack, Direct-to-Chip Liquid Cooling (DCLC) technologies have been developed for self-reliance. With this, indigenous supercomputing ecosystem of design and manufacturing of these components has been developed with industry partners.

These indigenous PARAM Rudra supercomputers are built using indigenous software stack and Rudra series of servers designed, developed and manufactured in the country. These Rudra series of servers have been designed by Centre for Development of Advanced Computing (C-DAC) for HPC and AI using Processors and Accelerators from chip vendors like Intel, AMD and NVIDIA and are being manufactured by Indian Electronic Manufacturing Services (EMS) vendors, M/s VVDN Technologies and M/s Kaynes Technologies. So far, 6000 Rudra servers are deployed in PARAM Rudra Supercomputers and additional 1500 Servers are being manufactured.

(c) to (e): In continuation of NSM, as part of NSM 2.0 roadmap is being developed for next generation supercomputing ecosystem.

Under NSM 2.0, it is also being contemplated to develop India's own processor/hardware with industry partners.

Annexure

Sr.	Installed Supercomputers Under NSM	Compute Power	Year of Commissioning
1.	C-DAC, Pune	150 TF	2017
2.	C-DAC, Pune	100 TF	2018
3.	Indian Institute of Technology (IIT), Banaras Hindu University, Varanasi	838TF	2019
4.	Indian Institute of Science Education and Research, Pune	1.7 PF	2020
5.	IIT, Kharagpur	1.66 PF	2020
6.	Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru	1.8PF	2020
7.	IIT, Kanpur	1.66 PF	2020
8.	C-DAC, Pune, National AI Facility	6.5 PF/210PF (AI)	2020
9.	C-DAC, Pune	100 TF	2020
10.	C-DAC, Pune	100 TF	2020
11.	Society for Electronic Transactions and Security (SETS), Chennai	100 TF	2020
12.	C-DAC, Bengaluru	82 TF	2020
13.	C-DAC, Pune	27 TF	2020
14.	IIT, Hyderabad	838 TF	2021
15.	National Agri-Food Biotechnology Institute (NABI), Mohali	838 TF	2021
16.	C-DAC, Bengaluru, National MSME Facility	838 TF	2021
17.	C-DAC, Pune	230 TF	2021
18.	IIT, Roorkee	1.66 PF	2022
19.	Indian Institute of Science (IISc), Bengaluru	3.3 PF	2022
20.	IIT, Gandhinagar	838 TF	2022
21.	National Institute of Technology (NIT), Trichy	838 TF	2022
22.	IIT, Guwahati	838TF	2022
23.	IIT, Mandi	838 TF	2022
24.	C-DAC, Pune	52.3 TF	2022
25.	IIT, Kharagpur	52.3 TF	2022
26.	IIT, Palakkad	52.3 TF	2022
27.	IIT, Chennai	52.3 TF	2022
28.	IIT, Goa	52.3 TF	2022
29.	PARAM Rudra Pilot	1 PF	2023

Sr.	Installed Supercomputers Under NSM	Compute Power	Year of Commissioning
30.	National Informatics Centre (NIC), New Delhi	(50 AI PF/1.3 PF)	2024
31.	C-DAC, New Delhi	200 TF	2024
32.	Inter-University Accelerator Centre (IUAC), New Delhi	3 PF	2024
33.	National Centre for Radio Astrophysics (NCRA), Pune	1 PF	2024
34.	S. N. Bose National Centre for Basic Sciences, Kolkata	838 TF	2024
35.	IIT, Bombay	3 PF	2025
36.	IIT, Madras	3 PF	2025
37.	IIT, Patna	838 TF	2025
	Total	~39 PF	
